

AMENDED CLAIMS

[Received by the International Bureau on 08 August 2005 (08.08.2005):
new claims 45-63 added, original claims 1-44 unchanged]

45. A process for isolating a ginkgolide from a mixture of terpene trilactones (TTLs) that comprises ginkgolide A, ginkgolide J, ginkgolide C, and ginkgolide B comprising:
 - a) exposing the mixture of TTLs to K_2CO_3 in dimethylformamide;
 - b) adding benzyl-bromide to the product of step a);
 - c) quenching the product of step b) with HCl and extracting with EtOAc and drying with $MgSO_4$; and
 - d) purifying the product of step c) with gradient column chromatography to produce a mixture comprising ginkgolide A and ginkgolide J.
46. The process of claim 45, further comprising purifying the ginkgolide A by recrystallizing from EtOH/H₂O.
47. The process of claim 45, further comprising purifying the ginkgolide J by recrystallizing from EtOH/H₂O.
48. A composition comprising ginkgolide J prepared by the method of claim 47.
49. A composition comprising ginkgolide J and ginkgolide A prepared by the method of claim 45.
50. A process for separating a terpene trilactone from Ginkgo biloba plant material or an extract of Ginkgo biloba comprising a mixture of terpene trilactones,

the process comprising the steps of:

- a) subjecting the *Ginkgo biloba* plant material or the extract to column chromatography with hexane/ethyl acetate to produce at least a first fraction containing the terpene trilactone bilobalide, a second fraction eluted after the first fraction containing the terpene trilactone GA and GB, and a third fraction eluted after the second fraction containing at least a preponderance of the terpene trilactones GC and GJ; and
- b) removing solvent under vacuum from the third fraction of step a) so as to produce a residue containing at least a preponderance of terpene trilactones GJ and GC;
- c) admixing the residue in DMF with K_2CO_3 and benzyl bromide, thereby producing a reaction mixture;
- d) quenching the reaction mixture with HCl, thereby producing a quenched product;
- e) extracting the quenched product with ethyl acetate, thereby producing a an extracted product; and
- f) subjecting the extracted product to column chromatography with hexane/ethyl acetate, thereby separating benzylated terpene trilactone GC from terpene trilactone GJ, thus providing terpene trilactone GJ in at

least 85% purity.

51. The process of claim 50, wherein the terpene trilactone GJ in step b) is provided in at least 90% purity.
52. The process of claim 50 or 51, further comprising recrystallizing the terpene trilactone GJ with ethanol/water, thereby providing terpene trilactone GJ in at least 98% purity.
53. A process for obtaining a terpene trilactone from Ginkgo biloba plant material or an extract of Ginkgo biloba comprising a mixture of terpene trilactones, the process comprising the steps of:
 - a) extracting the Ginkgo biloba plant material or the Ginkgo biloba extract with a first suitable solvent to produce a first residue and a first filtrate; extracting the first filtrate with a second suitable solvent to produce a second residue and a second filtrate;
 - b) extracting the second residue with a third suitable solvent to obtain terpene trilactone Ginkgolide B (GB) and a third filtrate;
 - c) subjecting the third filtrate to column chromatography with a first chromatography system to produce a first fraction containing terpene trilactone Ginkgolide A

(GA) and GB and a second fraction containing terpene trilactone Ginkgolide C (GC) and terpene trilactone Ginkgolide J (GJ);

d) subjecting the second fraction to column chromatography with a second chromatography system to separate GC and GJ,

thereby obtaining terpene trilactone GJ isolated from other trilactones and from the Ginkgo biloba plant material or the extract of Ginkgo biloba.

54. The process of claim 53, wherein the first suitable solvent is ethyl acetate.
55. The process of any of claim 53-54, wherein the second suitable solvent is diethyl ether.
56. The process of any of claim 53-55, wherein the third suitable solvent is methanol.
57. The process of any of claim 53-56, wherein the first chromatography system comprises hexanes/acetone.
58. The process of any of claim 53-57, wherein the second chromatography system comprises diethyl ether/methanol.
59. The process of any of claim 53-58, wherein subjecting the third filtrate to chromatography comprises the steps of:

- a) concentrating the third filtrate to produce a third concentrated filtrate; and
- b) subjecting the third concentrated filtrate to column chromatography with hexanes/acetone to produce a first fraction containing a mixture of terpene trilactones Ginkgolide A (GA) and GB and a second fraction containing a mixture of terpene trilactones Ginkgolide C (GC) and Ginkgolide J (GJ).

60. The process of any of claim 53-59, wherein subjecting the fraction containing GC and GJ to chromatography comprises the steps of:

- a) concentrating the fraction to produce a concentrated fraction;
- b) subjecting the concentrated fraction to column chromatography with diethyl ether/methanol to produce a GC containing fraction and a GJ containing fraction;
- c) removing the solvent from the GC containing fraction thereby obtaining GC; and
- d) removing the solvent from the GJ containing fraction thereby obtaining GJ.

61. A process for obtaining a terpene trilactone from ginkgo biloba plant material or an extract of

Ginkgo biloba comprising a mixture of terpene trilactones, the process comprising the steps of:

- a) extracting the Ginkgo biloba plant material or the Ginkgo biloba extract with ethyl acetate to produce a first residue and a first filtrate;
- b) concentrating the first filtrate of step a) to produce a concentrated first filtrate; extracting the concentrated first filtrate with diethyl ether to produce a second residue and a second filtrate;
- c) admixing the second residue of step b) with methanol and filtering to produce a third filtrate and the terpene trilactone Ginkgolide B (GB);
- d) concentrating the third filtrate of step c) to produce a third concentrated filtrate; subjecting the third concentrated filtrate to column chromatography with hexanes/acetone to produce a first fraction containing a mixture of terpene trilactones Ginkgolide A (GA) and GB and a second fraction containing a mixture of terpene trilactones Ginkgolide C (GC) and Ginkgolide J (GJ);
- e) removing the solvent from the second fraction of step d) to produce a third

residue; and subjecting the third residue to column chromatography with diethyl ether/methanol to produce third fraction containing GC and a fourth fraction containing GJ;

f) removing the solvent from the fourth fraction of step e) to thereby obtain GJ.

62. A process for separating Ginkgolide J (GJ) from a mixture of terpene trilactones (TTLs), wherein the separation is achieved through non-covalent interaction with the mixture of TTLs.

63. A composition comprising ginkgolide...J. obtained by the process of any one of claims 50 to 62.